

UK Patent Application (19) GB (11) 2 077 762 A
 (12)

(21) Application No 8115198
 (22) Date of filing 18 May 1981

(30) Priority data

(31) 80/19416

(32) 13 Jun 1980

(33) United Kingdom (GB)

(43) Application published
 23 Dec 1981

(51) INT CL³
 C22C 38/04 C23C 1/02

(52) Domestic classification

C7A 2429 A279 A28X

A28Y A329 A339 A349

A369 A389 A409 A439

A459 A509 A529 A53Y

A541 A543 A579 A58Y

A593 A595 A609 A61Y

A621 A623 A625 A671

A673 A675 A677 A679

A67X A681 A683 A685

A687 A689 A68X A693

A695 A696 A697 A698

A699 A69X A70X

B3A 180 26 78K

(56) Documents cited

GB 1517454

GB 1303876

GB 1208143

GB 897544

"The making, shaping-
 treating of steel" J. M.
 Cauf & C. B. Francis. Fifth
 Edn. Carnegie-Illinois
 Steel Corp. Pittsburgh PA
 Pub. 1941 See esp. pages
 1127/1128

(58) Field of search

B3A

C7A

C7F

(71) Applicant

Concorde Steelwires
 (PTE) Limited,
 111, Bukit Timah
 Shopping Centre, 170
 Upper Bukit Timah Road,
 Singapore

(72) Inventor

Doo Sou

(74) Agent

Fitzpatrick,
 48, St. Vincent Street,
 Glasgow G2 5TT

(54) **Zn-coated Wire**

(57) A coated wire consisting of:
 carbon from 0.08 to 0.15% by
 weight,
 manganese from 0.30 to 0.60% by
 weight,
 silicon from 0.15 to 0.30% by
 weight,
 sulphur from zero to 0.04% by
 weight,
 phosphorus from zero to 0.04% by
 weight,
 iron balance
 is made by a process comprising the

following steps:

(a) descaling a rod of an alloy
 having the composition defined
 above;
 (b) phosphating the said rod by
 treatment with phosphoric acid;
 (c) drawing the phosphated rod to
 reduce the diameter thereof;
 (d) heat-treating the drawn rod;
 (e) pickling the heat-treated rod;
 (f) galvanising the pickled rod by
 hot-dipping in a bath of molten zinc;
 and,
 (g) wet-drawing the galvanised rod
 to the final required diameter.

GB 2 077 762 A

SPECIFICATION
Coated Wire

This invention relates to coated wire for use, particularly, but not exclusively, for the manufacture of furniture, and to a method for the production of such wire.

According to the present invention, there is provided coated wire comprising galvanised wire composed of an alloy consisting of:

10 carbon from 0.8 to 0.15% by weight, manganese from 0.30 to 0.60% by weight, silicon from 0.15 to 0.30% by weight, sulphur from zero to 0.04% by weight, phosphorus from zero to 0.04% by weight, iron, balance.

A suitable diameter for the wire is from 0.70 to 0.90 mm.

The galvanisation is preferably carried out by hot-dipping in a bath of molten zinc.

20 Further according to the present invention there is provided a method of producing the wire of the invention, comprising the sequential steps of:

(a) descaling a rod of an alloy having the composition defined above;

25 (b) phosphating the said rod by treatment with phosphoric acid;

(c) drawing the phosphated rod to reduce the diameter thereof;

30 (d) heat-treating the drawn rod;

(e) pickling the heat-treated rod;

(f) galvanising the pickled rod by hot-dipping in a bath of molten zinc; and,

(g) wet-drawing the galvanised rod to the final

35 required diameter.

By way of example, the rod may have an initial diameter of 5.5 mm which reduces in the first drawing step defined as step (c) above to a diameter of from 2.2 to 2.6 mm, and, in the final

40 step, step (g) defined above, a final finished diameter of from 0.7 to 0.9 mm is formed.

The pickling, required by step (e) above, may be effected by treatment with hydrochloric acid followed, preferably, by water washing and drying

45 prior to the galvanising step, step (f).

The wetdrawing in step (g) gives a smooth, bright finish to the wire, making it suitable for use in the manufacture of furniture articles where appearance is important.

50 A suitable material for the wire is mild steel to Japanese standard J1S G 3505 of SWRM 6. The wire is softened by the heat-treatment.

Claims

1. Coated wire comprising galvanised wire

55 composed of an alloy consisting of:

carbon from 0.8 to 0.15% by weight, manganese from 0.30 to 0.60% by weight, silicon from 0.15 to 0.30% by weight, sulphur from zero to 0.04 by weight, phosphorus from zero to 0.04% by weight, iron, balance.

2. A method of producing the wire of the invention, comprising the sequential steps of:

(a) descaling a rod of an alloy having the composition defined above;

(b) phosphating the said rod by treatment with phosphoric acid;

(c) drawing the phosphated rod to reduce the diameter thereof;

70 (d) heat-treating the drawn rod;

(e) pickling the heat-treated rod;

(f) galvanising the pickled rod by hot-dipping in a bath of molten zinc; and,

(g) wet-drawing the galvanised rod to the final

75 required diameter.

3. A method according to claim 2, in which the galvanisation is carried out by hot-dipping in a bath of molten zinc.